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ABSTRACT

Research suggests that mothers interacting with disruptive children tend to experience greater negative affect (NA) and less parental confidence. Because children with externalizing disorders can be quite oppositional and rejecting, involvement in the parental role can lead to a sense of learned helplessness that can exacerbate anxious feelings. This study looked at whether high-social anxiety (SA) mothers were more likely to experience greater distress and negative self-appraisals of parenting performance than low-SA mothers, during an experimental interaction with an uncontrollable, deviant child. The experimental task had each parent interact with child confederates such that in one session a child behaved in a cooperative fashion and in a second session, a different child exhibited behaviors characteristic of externalizing disorders. Measures of distress and affect including self-ratings, observer mood ratings, heart rate, and blood pressure were obtained. Results indicated that high-SA parents experienced greater NA, regardless of child behavior, compared to low-SA parents. It appears that high-SA parents have a lower threshold for activated negative emotions such as anxiety, anger, and irritability and less positive interpersonal engagement. (Contains 3 tables and 27 references.) (JDM)

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RUNNING HEAD: PARENTAL SOCIAL ANXIETY

Parental social anxiety during an experimental parent-child learned helplessness procedure

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Abstract

Robust evidence indicates that mothers interacting with disruptive children tend to experience greater negative affect (NA) and less parental confidence. Because children with externalizing disorders can be quite oppositional and rejecting, involvement in the parental role can lead to a sense of learned helplessness that can exacerbate anxious feelings. Our primary interest was in the effect of parental social anxiety (SA) on reactivity to deviant children. Specifically, we asked whether high-SA mothers were more likely to experience greater distress and negative self-appraisals of parenting performance during an experimental interaction with an uncontrollable, deviant child than low-SA mothers. Our experimental task had each parent interact with child confederates such that in one session a child behaved in a cooperate fashion, and in a second session a different child exhibited behaviors characteristic of externalizing disorders. Measures of distress and affect, included self-ratings, observer mood ratings, heart rate, and blood pressure. Overall, results indicated that high-SA parents experienced greater NA and less PA, regardless of child behavior, compared to low-SA parents. It appears that high-SA parents have a lower threshold for activated negative emotions such as anxiety, anger, and irritability, and less positive interpersonal engagement (e.g., attentiveness, joy). Future research is necessary to better understand the bi-directional impact of parental and child psychopathology.

Parental social anxiety during an experimental parent-child learned helplessness procedure

Our research team has conducted a series of studies examining the link between childhood disorders (e.g., attention deficit-hyperactivity disorder, ADHD), parental stress-induced drinking (SID), and parental psychological distress (e.g., Pelham et al., 1997, 1998, 2000; Kashdan et al., 2000). Results consistenly found that parents experience greater subjective and physiological distress, and engage in greater SID, when interacting with confederates trained to enact deviant behaviors in contrast to normal confederates.

Based on the research on parental depressive and anxiety symptoms, there is a well-known connection between parental psychopathology and a low threshold for emotional and physiological distress (e.g., Brown & Pacini, 1989; Whaley, Pinto, & Sigman, 1999). Most research has assumed that this relationship is passed through biological or environmental pathways from parent to child (Biederman, Faraone, Keenan, Steingard, & Tsuang, 1991). However, we exposed the child-to-adult pathway of this relationship. In a laboratory setting, we induced subjective and physiological distress by introducing a difficult child as an ecologically valid stressor for mothers of difficult children. Despite the large number of studies on parental depression and its relationship with families involving children with externalizing disorders, relatively few, if any, studies have investigated the contributions of parental social anxiety (SA).

It was presumed that parental SA would be relevant to the study of parental reactions to interacting with deviant, disruptive children. Individuals with social anxiety disorder (SAD) have a persistent and pervasive fear that they will be negatively evaluated by others, subsequently leading to significant distress and/or impairment in life roles (e.g., parenting, social functioning; American Psychiatric Association, 1994). As a consequence, high-SA individuals expect to perform ineffectively in perceived social evaluative situations and tend to discount successful social behaviors, whereas low-SA individuals maintain higher social self-efficacy both before and after social interactions (Stopa & Clark, 1993; Alden & Wallace, 1995). Research has found high-SA individuals to experience lower levels of positive affect (PA), perceived quality of life, and higher negative affect (NA) than comparative control samples (Vittengl & Holt, 1998; Davidson et al., 1994). The relationship between SA and NA has shown robust empirical support whether assessed by self-reported mood, cognitions, physiological reactivity to stress, or ratings by observers.

Using a prospective, experimental design, the present study sought to extend these findings to parents of children with externalizing disorders. To prime the most salient stress of our parent population, the procedure was designed to mimic the chronic parenting stress of attempting to teach the appropriate behaviors and obtain compliance with a disruptive and oppositional child. In terms of hypotheses, we expected high-SA parents to experience greater NA, negative appraisals of their parenting performance, and lower PA than low-SA parents. Similarly, we expected high-SA parents to experience greater autonomic reactivity and be rated higher in NA and lower in PA by independent raters than low-SA parents. Because of the biased negative social appraisals of high-SA individuals, we expected significant main effects for SA across confederate conditions. The present investigators are not aware of any prior studies that have explored the effects of SA on the emotional, physiological, and cognitive response systems of parents, much less parents of children with externalizing disorders.

Method

Overview

In a laboratory study, we examined the effect of parental SA during parent-child interactions on parental distress by having mothers participate in two experimental sessions (separated by one week) with a child confederate they believed to be an ADHD or normal child. On one evening a confederate exhibited the deviant role and in the other evening a different confederate exhibited the normal child role (counterbalanced across parents). The dependent measures of the present study include self-reported mood ratings and parental self-

appraisals, independent observer mood ratings, and heart rate and blood pressure recordings. Participants were told the the goal of the research was to examine the effects of alcohol on adult-child interactions (see Pelham et al., 1998, 2000 for alcohol-related outcomes)

Participants

All 118 mothers were recruited based on having a son, aged 5-13, with ADHD. Similar to previous studies on SA (e.g., Turner, Beidel, & Larkin, 1986), parents were categorized as either high or low in SA based on a median split (median = 10) on responses to the 30-item Fear of Negative Evaluation (Watson & Friend, 1986) Questionnaire. Sample characteristics are shown in Table 1. Exclusionary criteria included self-report of (a) medical or psychiatric conditions that would preclude safe drinking, (b) current alcohol problems or attempts to curtail alcohol use, (c) current abstention from alcohol use, or (d) positive result on a hCD urine pregnancy test.

Procedures

Sequence of events (relevant to present study) during each of the two evening sessions:

- overview and hook-up of physiological monitors
- baseline tasks completed alone
- interaction with a child confederate enacting normal or deviant role depending on session

Five confederates (9 to 12 years old) were extensively trained to enact specific behaviors representative of both normal and ADHD/CD/ ODD (deviant) children. A detailed script was written for each of the two roles. In the normal child role, confederates behaved in a friendly, cooperative manner across all tasks. In the deviant role, confederates exhibited a variety of specific uncooperative, noncompliant, distractible, overactive, bossy, disruptive, and interrupting behaviors.

The tasks were analogous to interactions parents have at home with their children (e.g., balancing a checkbook while the child completed academic assignments, free play followed by asking child to clean up toys). All interactions occurred in a large play/living room area, observed and videotaped through a one-way mirror.

Throughout the assigned tasks, physiological measurements recored heart rate and blood pressure. To assess affect, ambulatory self-report ratings were administered after each task of the interactions, and at the end of each session. Following each session, parents were also given the Child Behavior Rating Scale (CBRS) to assess child behavior and self-appraisals of parenting performance. The CBRS consisted of 24, seven-point items adapted from the Behavior Problem Checklist (Quay & Peterson, 1983) that described behaviors likely to occur during the interaction.

Dependent Measures

- Subjective Measures of Distress and Affect
  - CBRS (symptoms of ADHD, ODD, and CD)
  - Self Rating of Unpleasantness
  - Self Rating of Unsuccessfulness
  - PANAS Positive and Negative Affect (Watson, Clark, & Tellegen, 1988)
  - Circular Mood Scale Negative Affect (CMS; Jacob et al., 1989)
- Physiological Measures of Distress and Affect
  - Heart Rate
  - Systolic Blood Pressure
- Observer Ratings of Affect
  - PANAS Positive and Negative Affect (Watson, Clark, & Tellegen, 1988)
  - Circular Mood Scale Negative Affect (CMS; Jacob et al., 1989)

Participants completed ratings during and following the interactions. During the entire experiment, heart rate was recorded using a Medilog ambulatory recording unit (Ambulatory Monitoring, Inc., England) and blood pressure was recorded using a Colin ambulatory blood pressure monitor (ABPM-630; Colin Electronics Company, Japan). Continuously monitored heart rate (HR) measured in beats per minute (bpm) and intermittently recorded systolic blood pressure (SBP) measured in millimeters of mercury (mm Hg) using the auscultatory method served as measures of physiological distress.

Results

Results fall into three main categories: (a) subjective measures of parents' distress, affect, and self-appraisals, (c) physiological measures of parents' distress, and (d) observer ratings of affect. Analyses were conducted using repeated measures analysis of covariance (ANCOVA) controlling for baseline measures. In terms of the experimental manipulation, blind observer ratings found the five confederates to do an excellent job at enacting their scripts. Previous reports found mothers with deviant confederates to be less engaged (i.e., lower positive affect), higher in NA, and rated their own performance to be less successful than interactions with normal confederates (see Pelham et al., 2000). Thus, our manipulation has shown continual experimental validity. Descriptive statistics of the role of SA on dependent measures are shown in Table 2 and 3.

Regarding the effects of SA on measures of subjective and physiological distress and independent observer ratings, a series of 2 (Social Anxiety: high, low) X 2 (Confederate: deviant, normal) X 2 (Order: deviant first, normal first) repeated-measures ANCOVAs were conducted. To assess the effects of SA on PANAS mood ratings by independent observers, repeated-measures ANOVAs were conducted.

Results revealed that interactions with deviant confederates were associated with highly significant elevations on all distress measures, relative to levels observed during interactions with normal boys (see Pelham et al., 1998). A significant main effect for SA was found on the PANAS-NA, F (1,114) = 9.017, $p < .005$, and approached significance on the PANAS-PA, F (1,114) = 2.748, $p = .10$. In terms of observer ratings, a significant main effect for SA was found for experimenter ratings on the PANAS-PA, F (1,105) = 7.732, $p < .01$. No other significant main or interaction effects were found concerning SA.

Discussion

The adverse effect of the deviant confederate on the parents' subjective and physiological distress in our earlier studies (e.g., Pelham et al., 1997, 1998), in general, was extended by taking account of maternal SA. Results demonstrated that maternal SA effects subjective ratings of NA and PA, and observer ratings of PA (or interpersonal engagement). Not unlike other studies of subjective, cognitive, and physiological ratings of distress, these different response systems demonstrated some degree of discordance (e.g., Lang, Levin, Miller, & Kozak,1983; Hodges, Cook, & Lang, 1995). Social anxiety failed to demonstrate significant relations with HR, BP, or perceptions of parenting performance. These nonsignificant findings run contrary to prior research finding high-SA individuals to exhibit higher BP, HR, and negative self-appraisals than low-SA individuals (e.g., Turner et al.,1986; Beidel, Turner, & Dancu, 1985).

Despite general effects of SA on mood states, many of the present results were surprising. Our failure to demonstrate any association between maternal SA and HR, BP, and social cognitions may have been a consequence of our assessment and sampling techniques. First, our reliance on the FNE as the primary measure of SA may not have adequately addressed the interactional fears central to SAD that are given greater attention in more modern instruments (e.g., Turner, McCanna, & Beidel, 1987). Stronger relationships between SA and all of the dependent measures can be expected with the use of stronger psychometric instruments. Secondly, because we excluded participants presenting current alcohol problems,

there is questionable generalizability to the general population of parents of children with externalizing disorders. Because excessive SA is widely associated with alcohol use (e.g., Chambless et al., 1987), our sample selectivity presumably led to a final sample of less SA parents. Similarly, our sample was not selected according to SA. Stronger relationships can be expected when comparing parents selected for high and low SA scores, or the presence of SAD.

Despite these limitations, SA did have a significant effect on self-reported NA and a strong association with PA during interactions with both deviant and normal children. The experience of NA and low PA in high-SA parents can be expected to effect the quality of parent-child relationships, including less warmth, nurturance, and greater disengagement (Kashdan & Herbert, in press). For parents of children with externalizing disorders, understanding the negative consequences of SA can elucidate ways in which it can exacerbate their children's already existing deviant tendencies. Interventions should be integrated into a framework that addresses the bi-directional interference parental and child psychopathology can have on the optimal functioning of familial members (Whaley et al., 1999; Kashdan & Roberts, under review).

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Table 1. Means and Standard Deviations for Demographics

Variable	Mothers	
	M	SD
Subject Age in Years	35.60	5.66
Target Child Age in Years	9.18	1.94
Family SES[a]	40.31	12.92
Race (percentage white)	85.6%	
Marital Status (% single)	35.6%	
Education Level		
(HS graduate or less)	22.0%	
(partial college)	38.1%	
(college graduate)	27.1%	
(post-graduate training)	12.7%	
Typical # of drinks per occasion	2.86	1.46
Typical # of drinking occasions per week	1.08	1.18
Proportion of first degree relatives with alcohol problems[b]	0.19	0.24

Notes. [a](Hollingshead, 1975). [b]Family Tree Questionnaire (Mann, Sobell, Sobell, & Pavan, 1985). *$p<.05$. **$p<.01$. ***$p<.001$.

Table 2. Means and Standard Deviations for Dependent Measures in Deviant Condition

Variable	High-SA adj. M	Low-SA adj. M	t(115)
CBRS (child behavior ratings)	117.46	115.98	-.49
Self Rating of Unpleasantness	4.46	4.03	.34
Self Rating of Unsuccessfulness	5.11	4.88	-1.70
PANAS Positive Affect (PA)	22.85	24.83	1.56
PANAS Negative Affect (NA)	18.13	15.44	-2.31*
PANAS-PA (experimenter)	24.04	26.48	1.81
PANAS-NA (experimenter)	19.55	17.50	-1.85
Heart Rate in bpm	79.98	80.12	.95
Systolic Blood Pressure in mm Hg	128.44	130.86	1.17

Notes. The Interaction experimenter completed the PANAS as an independent rater of participants' moods.
*$p<.05$. **$p<.01$. ***$p<.001$.

Table 3. Means and Standard Deviations for Dependent Measures in Normal Condition

Variable	High-SA adj. M	Low-SA adj. M	t(115)
CBRS (child behavior ratings)	7.26	8.31	.48
Self Rating of Unpleasantness	.48	.58	.93
Self Rating of Unsuccessfulness	.15	.28	-1.23
PANAS Positive Affect (PA)	24.87	26.90	1.52
PANAS Negative Affect (NA)	11.56	10.48	-3.21**
PANAS-PA (experimenter)	22.76	27.20	3.21**
PANAS-NA (experimenter)	10.80	10.75	-.167
Heart Rate in bpm	76.95	76.64	.87
Systolic Blood Pressure in mm Hg	122.68	126.11	1.72

Notes. The Interaction experimenter completed the PANAS as an independent rater of participants' moods.
*p<.05. **p<.01. ***p<.001.